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<http://dx.doi.org/10.37231/myjas.2020.5.1.242><https://journal.unisza.edu.my/myjas>**PENERBIT**
Universiti Sultan Zainal Abidin**ORIGINAL ARTICLE****Subjective Well-being of Indramayu Regency's Fishermen****Zuzy Anna^a, Rahmahwati Rosidah^a, Iskandar^a, Achmad Rizal^a, Tri Dewi K. Pribadi^b,
Yudi N. Ihsan^{a*}**^aFaculty of Fisheries and Marine Sciences, Universitas Padjadjaran^bDepartment of Biology, Universitas Padjadjaran

Corresponding author: *yudi.ihsan@unpad.ac.id

*Received: 10/04/2020, Accepted: 21/04/2020, Published: 30/04/2020***Abstract**

Fisherman in Indonesia is still dominated by small-scale fishermen or traditional fishermen. This condition is very vulnerable to poverty with condition is identical with low well-being. This research was conducted in Indramayu regency from February to May 2018 by interviewing 100 fishermen. This study aims to analyze the domain of life satisfaction and subjective well-being of fishermen because prosperity is generally measured objectively through standards made by the government. Structured questionnaires are used to find out whether they are satisfied with their life or not in certain conditions such as satisfaction with fishing gear, government policies, environment, the relationship between them and others. Life satisfaction domain analysis is used to determine which domain is the most dominant. The method used in this study is a purposive sampling method in which a sample determination technique was performed with certain considerations. Data analysis was performed using descriptive statistics, namely average, standard deviation, and variance. Subjective well-being levels are categorized into four classes, very poor, poor, good, and very good. The results showed that Indramayu Fishermen belong to a very good subjective well-being.

Keywords: Subjective well-being, fishermen, fishing gear, well-being domain**Introduction**

Judging from the potential of natural resources, Indonesia is known as the largest maritime country in the world because it has a relatively large potential of fishery resource especially capture fisheries. The capture fisheries sector has a strategic role in national development. The potential of capture fisheries in Indonesia reaches 12.5 million tons, increasing from 2015 which reached 9.9 million tons. This potential must be utilized by maximizing capture fisheries activities where the activity is supported by the role of fishermen in it. In another word, capture fisheries very depend on fishermen's activities. Unfortunately, Fishermen in Indonesia are still dominated

by small-scale fishermen or traditional fishermen. This condition has put the fishermen, especially for small-scale fishermen, to be vulnerable to poverty. According to Bene (2003), fishermen are referred to the poorest segment of the poorest. Borner et.al (2015) says that poor households are particularly vulnerable to economic shocks because they depend on the economic activities of natural resources whose rates of return are highly variable and uncertain.

Fishermen also deal with many problems such as border fishing areas, inadequate fishing technology, and socio-economic barriers. Risks that are often experienced by fishermen are uncertainty production and environmental fluctuations in fish resources, price risk from unstable supply conditions, and even risking their lives in sea conditions. All of these risks can cause economic and social turbulence to families and affect the satisfaction and prosperity of fishermen in their lives.

So far, well-being is valued from objective indicators only. That means, the government makes some criteria to determine Well-being of the societies. So, subjectively they might be not necessarily prosperous and happy with their life and vice versa. Subjective well-being is a form of evaluation of the individual's life. This form of evaluation can be done in two ways: cognitive assessment, such as life satisfaction and emotional response to events, such as feeling positive emotions (Diener and Scollon 2003).

With subjective well-being we can obtain information about which factors are most influential on their well-being. It can also provide advice to the government to determine the fishing policy related to the kind of fishing gears that should be developed for fishermen because it is the best way to know what the fishermen are really expecting what kind of fishing gear that should be developed for fishermen because it is the best way to know what the fishermen are really expecting.

Materials and Methods

The method used in this research is a purposive sampling method. Research conducted by collecting data and information by interviewing 132 questionnaires from 100 respondents from three major fishing vessels, they are gill net, fishing traps, and mini trawl in two districts, by *Likerts* scale 1-4. The questionnaires are based on following components:

Table 1: Questionnaires Items of Subjective Well-being

Aspect	Component	Number of Items
Cognitive	Life Vision	15
	Self-Acceptance	13
	Life Satisfaction	22
	Independence	15
	Positivism	12
Affective	Personal Satisfaction	18
	Happiness	23
	Optimism	14

The first step is to test the validity of the questionnaire with product moment correlation technique from Pearson. The product moment correlation formula as following:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}} \quad (1)$$

where “ r_{xy} ” is the correlation coefficient between variable X Y, “N” is the number of subjects, “X” is scores of each item, and “Y” is total of item scores.

The next stage is reliability test. Reliability test shows the direction of which instrument can give consistent measurement result done repeatedly. Measurement of reliability is using the formula Cronbach Alpha below:

$$r_{11} = \left[\frac{n}{(n-1)} \right] \left[1 - \frac{\sum \sigma^2}{\sigma^2} \right] \quad (2)$$

Where “ r_{11} ” is reability instrument, “n” is number of items, “ σ^2 ” is score of each item, and “ $\sum \sigma^2$ ” is total variance. Criteria reability test with alpha formula is if r arithmetic > r table, then the measuring tool is reliable.

The next stage is analysis of the questionnaires using descriptive analysis. Descriptive analysis is used to describe population data. Data processing supported by Microsoft Excel program by using simple statistical calculation such as mean, standard deviation, and variance. Then the questionnaire data are processed to determine the category of subjective well-being. The results of subjective well-being are categorized into four classes with the following categories:

Table 2: Category of Subjective Wellbeing

Variable	Criteria	Category
Subjective Well-being	$X \geq 3.26$	Very Good
	$2.5 \leq X < 3.25$	Good
	$1.75 \leq X < 2.5$	Poor
	$1.00 < X < 1.75$	Very Poor

After categorizing fishermen based on their subjective well-being, data are presented in the graph to see how many respondents in every category.

Next, logit model also used to test whether the probability of occurrence of a dependent variable can be predicted with an independent variable. Logit regression model used to test the results of research are as follows:

$$Y = \log \frac{p_i}{1-p_i} = \alpha + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 + \beta_6 D_6 + \beta_7 D_7 + \beta_8 D_8 + \beta_9 D_9 + \beta_{10} D_{10} + \beta_{11} D_{11} \quad (3)$$

Where “Y” is Happiness Level, “D1” is Age, “D2” is Education, “D3” is Ship Size, “D4” is Revenue, “D5” is Experience, “D6” is Number of Trips/Month, “D7” is Trip duration, “D8” is Marital Status, “D9” is Wife's Occupation, “D10” is Number of Dependents, “D11” is Fisherman's Status, “ α ” constants, and “ β ” is variable coefficients.

Results

The results of questionnaires have been processed using simple statistics by using Microsoft Excel 2016 and SPSS 25. Based on the questionnaires, the subjective well-being of Indramayu Regency is 3.45. That means Indramayu Regency's fishermen are categorized as very good in Subjective Well-being. To analyze more about the result, the graph below shows the percentage of fishermen in every category of subjective well-being.

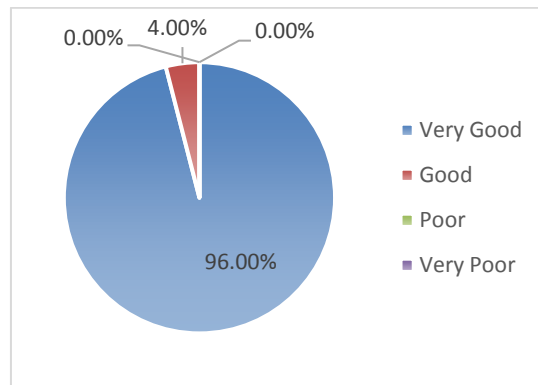


Figure 1: Pie Chart of Subjective Well-being in Indramayu Regency

According to the fig 1, 96.00% of Fishermen in Indramayu regency have a very good Subjective Well-being while the rest of them have a good Subjective Well-being. That result shows that Indramayu's fishermen are satisfied and happy with their lives. Subjective well-being is based on cognitive and affective domain. The results of domain in subjective well-being are presented in Table 3.

Table 3: Results of Domain in Subjective Well-being

Domain	Indicator	Likert Average	Category
Cognitive	Life Purposes	3.82	Very Good
	Self-acceptance	3.81	Very Good
	Life Satisfaction	3.51	Very Good
	Independence	3.47	Very Good
	Positivism	3.72	Very Good
Affective	Satisfaction	2.26	Poor
	Happiness	3.76	Very Good
	Optimism	3.49	Very Good

From the table 3, there are five indicators from cognitive domain. The first indicator is life purposes. The purpose of life is often related with the concept of religiosity where this is a great relationship to the future direction by projecting of someone's belief in God. This is something that someone will happen in freedom from God. Diener and Scollon (2003) state that the purpose of life or the meaning of life is important for individuals, and making progress towards goals that are important for subjective well-being. Developing goals make it possible to be a universal cause of happiness. Indramayu's fishermen have weekly program related to religious. Majority of fishermen in Indramayu are Moslem. Every week, they have *ceramah* (lecture related to Moslem) which might affect their subjective well-being.

The second dimension is self-acceptance. This dimension is analyzed to determine whether the respondent accepts his situation. This dimension is a person's psychological well-being. This is important because this dimension is an in-depth assessment of a person for himself. Individuals who have high self-acceptance show that they have a positive attitude towards themselves, recognizes and accepts various aspects of themselves, and feels positive

about the life they are living. Conversely, individuals who have low self-acceptance will show feelings that are not satisfied with themselves, feel disappointed in the life they live, and have hope not to be themselves at this time (Ryff and Singer 1996: 15). Fishermen in Indramayu have a very good level of self-acceptance. It shows that even though that fishermen identical with a harsh life, but they always accept their situation.

The third indicator also showed a very good level. The dimension of life satisfaction is a form of one's ability to enjoy their experiences accompanied by joy. Satisfaction is different depending on the way someone looks at something. According to Diener et al, (2004), higher subjective well-being is characterized by a feeling of happiness, very satisfied with the life lived, and accompanied by low concern or anxiety. Most of the fishermen said they always start their day with full of joy. Moreover, meeting other fishermen make them forget their problems. They always take their activity as their emotional control.

Independence and Positivism of Fishermen also show a very good result. The dimension of independence is also psychological well-being. This dimension is analyzed to find out how confident they are in overcoming things, making decisions, and doing things themselves without the influence of others. Independence or autonomy describes individuals with good independence, which is characterized by being able to assess and direct themselves, facing social pressure, and regulating their own behavior. In contrast, low independence shows that individuals pay attention to expectations, evaluations from others, adjust to social pressure in thinking and behaving. Meanwhile, Positivism is a very relatable indicator to all domains. People who always think positively about the spirit of living life and this dimension will influence other dimensions, especially purposes of life. People who tend to get closer to God are more positive than people who don't.

The next domain is effective which is an aspect related to one's emotions. This aspect includes three indicators. The first dimension is satisfaction. Satisfaction is a feeling where someone feels satisfied from the heart for his life. Unlike life satisfaction, satisfaction is more of an emotional mood or feeling. A person can say that he is satisfied with his life, but from his heart, he can feel that he is unsatisfied. In other word, life satisfaction is more logical, but satisfaction is emotional. The result showed that Indramayu's fishermen have poor satisfaction. This means that logically they feel that they are satisfied but, far away deep in their heart, they feel unsatisfied.

Satisfaction indicator also related to happiness indicator. Happiness is part of subjective well-being. Subjective well-being is overall happiness. Happiness is supported by the satisfaction in one's self. Happiness itself is defined as a positive psychological condition characterized by high life satisfaction, positive affect, and lower negative affect (Carr 2004). The result showed that Indramayu's fishermen have a very good happiness. This can happen because almost all indicators show a very good level. That means, because of the whole indicator are very good, they can cover the low result indicator.

Ladder analysis was used to examine which condition support the overall subjective well-being. Ladder analysis is psychological analysis. Ladder analysis is used in the analysis of cognitive work to describe decision-making activities (Rasmussen 1974). This analysis is needed to deepen about something, in this study is subjective well-being. This analysis is made based on the current time, five years later, and five years ago. The ladder analysis result is presented in the table below.

Table 4: Ladder Analysis Result

	Likert Average	Category
Present	3.45	Very Good
5 Year ago,	3.48	Very Good
5 Year later	3.43	Very Good

According to Table 4, the results based on the time series showed that all conditions are in a very good category. Likert average of condition in 5 years ago showed the biggest average compared to other time condition. This result indicates that five years ago condition was much better than present and five years later even though the difference is slight.

Respondent number 11 said that five years ago, government's regulation is not as hard as today. They felt that the government is not supporting the fishermen anymore. Moreover, due to the environmental condition, they found it hard fishing zone and it has always affected their income. Lack of funding of the fishermen is the main factor which address them to the optimistic with their future.

To answer whether there is variable which affect subjective well-being, logit model is used. The result of the Logit model presented below:

Table 5: Logit model results

Variables in the Equation								95.0% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1	Usia	.154	.150	1.060	1	.303	1.166	.870	1.564
	Pendidikan	-1.313	.675	3.786	1	.052	.269	.072	1.010
	UkuranKapal	-.194	.139	1.935	1	.164	.824	.627	1.082
	LnPendapatan	-2.358	2.235	1.113	1	.291	.095	.001	7.554
	Pengalaman	-.217	.142	2.331	1	.127	.805	.609	1.064
	JumlahTrip	-.320	.117	7.439	1	.006	.726	.577	.914
	LamaTrip	.023	.128	.033	1	.856	1.024	.797	1.315
	StatusPernikahan	-24.510	10974.053	.000	1	.998	.000	.000	.
	PekerjaanIstri	4.809	2.116	5.167	1	.023	122.559	1.939	7745.984
	JumlahTanggungan	.172	.601	.082	1	.775	1.188	.366	3.860
	StatusNelayan	-.369	1.022	.130	1	.718	.691	.093	5.125
	Constant	64.729	10974.106	.000	1	.995	1E+028		

a. Variable(s) entered on step 1: Usia, Pendidikan, UkuranKapal, LnPendapatan, Pengalaman, JumlahTrip, LamaTrip, StatusPernikahan, PekerjaanIstri, JumlahTanggungan, StatusNelayan.

From the table of the logit model above the equation can be written as follow:

$$\ln \frac{p}{1-p} = 64,729 + 0,154X_1 - 1,313 X_2 - 0,194 X_3 - 2,358 X_4 - 0,217 X_5 - 0,320 X_6 + 0,023 X_7 - 24,510 X_8 + 4,809 X_9 + 0,172 X_{10} - 0,369 X_{11} \quad (4)$$

The results showed that wife's occupation is the most dominant factor which influence the subjective well-being. The odds ratio for this condition is 122,559 which means for a wife who do not work have a chance of decreasing subjective well-being 122,559 times compared to respondent whose wife are working. Based on the P values, only two variables are significantly influencing the subjective well-being. They are duration of the trip and wife's occupation with P values are less than 0.05.

Women's participation in an income generating activity can help the family economy. According to Sihite (2007) the income of women in households is an alternative effort to increase family income. Fishermen's families in Pantura for example, have fish processing activities run by their wives. This makes the economic improvement of fishermen households. Women's participation in an income generating activity also can help to stabilize a family relationship and the quality of marriage. Low income is a factor that causes stress and estrangement in a relationship (Schramm 2007).

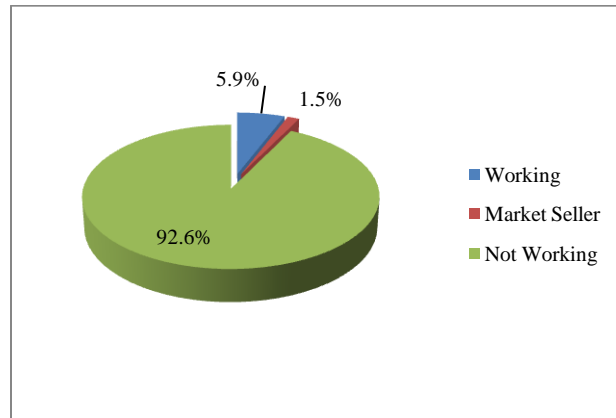


Figure 2: Pie Chart of Fishermen's wife occupation in Indramayu Regency

The Figure 2 indicates that 92.6% fisherman's wife is jobless. The respondents stated that there are not many fisheries processing business in Indramayu. Moreover, with lack of education background, they had to find a job in the formal sector. Based on BPS data, more than 50% of the coastal area community don't graduate from primary school.

Conclusion

Based on the Subjective Well-being research on fishermen in Indramayu regency, it can be concluded that: Subjectively, the fishermen are in a very good level of Subjective Well-being. Ladder analysis indicates that five years ago condition was better than present and future condition, due to their disappointment to government rules and environmental conditions. Based on logic analysis, all variables do not significantly influence the subjective well-being. However, wife's occupation is the most dominant factor which influence the subjective well-being.

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